

CLAIMS

We claim:

[c1] 1. A computer system comprising:

- a first bank of processors;
- a second bank of processors spaced apart from the first bank of processors; and
- a connector assembly configured to operatively connect at least a portion of the first bank of processors to at least a portion of the second bank of processors, the connector assembly having-
- (a) a first connector unit including a plurality of individual first connector sets that include a plurality of first contacts operatively connected to the first bank of processors,
- (b) a second connector unit including a plurality of second connector sets that include a plurality of second contacts operatively connected to the second bank of processors, and
- (c) a movable guide structure carrying at least one of the first and second connector units, wherein at least one of the first and second connector units is movable relative to the other one of the first and second connector units via the guide structure to align the plurality of first connector sets with corresponding second connector sets and releasably engage the plurality of first contacts with the plurality of second contacts.

[c2] 2. The computer system of claim 1 wherein the first bank of processors include processors housed in cabinets arranged in a first bank, and wherein the second bank of processors includes processors housed in cabinets arranged in a second bank spaced apart from the first bank.

[c3] 3. The computer system of claim 1 wherein:
the first bank of processors includes processors housed in cabinets arranged in a first bank;
the second bank of processors includes processors housed in cabinets arranged in a second bank spaced apart from the first bank;
the plurality of first contacts are operatively connected to the first bank of processors via at least a first cable extending from the first bank of cabinets to the first connector unit; and
the plurality of second contacts are operatively connected to the second bank of processors via at least a second cable extending from the second bank of cabinets to the second connector unit.

[c4] 4. The computer system of claim 1 wherein the first connector unit further includes a connector support, and wherein the plurality of first connector sets are carried individually by the connector support.

[c5] 5. The computer system of claim 1 wherein the first connector unit further includes a connector support, and wherein the plurality of first connector sets are carried individually by the connector support and the first connector sets are configured to move in at least one direction relative to the connector support.

[c6] 6. The computer system of claim 1 wherein the first connector unit further includes a first alignment feature and the second connector unit further includes a corresponding second alignment feature configured to cooperate with the first alignment feature so that the plurality of first contacts are properly aligned with corresponding second contacts.

[c7] 7. The computer system of claim 1 wherein the first connector unit further includes at least one guide pin bore and the second connector unit further includes a corresponding guide pin configured to be received by the guide pin

bore so that the plurality of first contacts are properly aligned with corresponding second contacts.

[c8] 8. The computer system of claim 1 wherein:

 the first connector unit further includes a first primary alignment feature and a first secondary alignment feature; and

 the second connector unit further includes a second primary alignment feature and a second secondary alignment feature, wherein-

 the first primary alignment feature of the first connector unit is configured to cooperate with the second primary alignment feature of the second connector unit to provide a first stage of alignment between the first contacts and the corresponding second contacts, and

 the first secondary alignment feature of the first connector unit is configured to cooperate with the second secondary alignment feature of the second connector unit to provide a second stage of alignment between the first contacts and the corresponding second contacts, the second stage of alignment being closer than the first stage of alignment.

[c9] 9. The computer system of claim 1 wherein:

 the first connector unit further includes a primary guide pin bore and a secondary guide pin bore; and

 the second connector unit further includes a primary guide pin and a secondary guide pin, wherein-

 the primary guide pin bore of the first connector unit is configured to receive the primary guide pin of the second connector unit to provide a first stage of alignment between the plurality of first contacts and the corresponding second contacts, and

the secondary guide pin bore of the first connector unit is configured to receive the secondary guide pin of the second connector unit to provide a second stage of alignment between the plurality of first contacts and the corresponding second contacts, the second stage of alignment being closer than the first stage of alignment.

[c10] 10. The computer system of claim 9 wherein at least one of the first connector sets further includes a connector back-shell and a contact array frame, wherein the contact array frame carries the plurality of first contacts in the connector back-shell, and wherein the connector back-shell includes the primary guide pin bore and the contact array frame includes the secondary guide pin bore.

[c11] 11. The computer system of claim 9 wherein at least one of the first connector sets further includes a connector back-shell and a contact array frame, wherein the contact array frame carries the plurality of first contacts in the connector back-shell and is free to move small distances laterally relative to the connector back-shell, and wherein the connector back-shell includes the primary guide pin bore and the contact array frame includes the secondary guide pin bore.

[c12] 12. The computer system of claim 9 wherein at least one of the first connector sets further includes a connector back-shell and a contact array frame, wherein the contact array frame carries the plurality of first contacts in the connector back-shell and individual first contacts are free to move small distances relative to each other in the contact array frame, and wherein the connector back-shell includes the primary guide pin bore and the contact array frame includes the secondary guide pin bore.

[c13] 13. The computer system of claim 1 wherein the connector assembly further comprises a drive assembly operably coupled to at least one of the first

connector unit and the second connector unit, wherein the drive assembly is configured to drive at least one of the first and second connector units toward the other one of the first and second connector units to releasably engage the plurality of first contacts with the plurality of second contacts.

[c14] 14. The computer system of claim 1 wherein the guide structure comprises an extendable member that moves along a guide path, and wherein the first connector unit is mounted to the extendable member so that the first connector sets are generally aligned with the second connectors.

[c15] 15. The computer system of claim 1 wherein at least one of the first connector unit and the second connector unit includes a shock absorber configured to contact the other one of the first connector unit and the second connector unit and control the rate of engagement of the plurality of first connector sets with the plurality of second connector sets.

[c16] 16. The computer system of claim 1 wherein at least one of the first connector unit and the second connector unit includes a blocking member that retractably extends into the path of the other of the first connector unit and the second connector unit to block the plurality of first connector sets from inadvertently contacting the corresponding second connector sets.

[c17] 17. The computer system of claim 1 wherein at least one of the first connector unit and the second connector unit includes a retractable pin that movably extends into the path of the other of the first connector unit and the second connector unit to block the plurality of first connector sets from inadvertently contacting the corresponding second connector sets.

[c18] 18. A computer system comprising:
a first bank of processors;

a second bank of processors spaced apart from the first bank of processors; and

a connector assembly configured to operatively connect at least a portion of the first bank of processors to at least a portion of the second bank of processors, the connector assembly having-

- (a) a first connector unit with a plurality of first connector sets operatively connected to the first bank of processors,
- (b) a second connector unit with a plurality of second connector sets operatively connected to the second bank of processors, and
- (c) a drive assembly operably coupled to at least one of the first connector unit and the second connector unit, wherein the drive assembly is configured to drive at least one of the first and second connector units toward the other one of the first and second connector units to releasably engage the plurality of first connector sets with the plurality of second connector sets.

[c19] 19. The computer system of claim 18 wherein the first bank of processors includes processors housed in cabinets arranged in a first bank, and wherein the second bank of processors includes processors housed in cabinets arranged in a second bank spaced apart from the first bank.

[c20] 20. The computer system of claim 18 wherein:

individual first connector sets include a plurality of first contacts operatively connected to the first bank of processors;

individual second connector sets include a plurality of second contacts operatively connected to the second bank of processors; and

the drive assembly is configured to drive at least one of the first and second connector units toward the other one of the first and second

connector units to releasably engage the plurality of first contacts with the plurality of second contacts.

[c21] 21. The computer system of claim 18 wherein at least one of the first connector unit and the second connector unit further includes at least one cam follower, and wherein the drive assembly further includes at least one cam surface configured to cooperate with the cam follower to drive the first and second connector units together to releasably engage the plurality of first connector sets with the plurality of second connector sets.

[c22] 22. The computer system of claim 21 wherein the at least one cam follower is rotatably mounted to the at least one of the first connector unit and the second connector unit.

[c23] 23. The computer system of claim 18 wherein at least one of the first connector unit and the second connector unit further includes at least one cam surface, and wherein the drive assembly further includes at least one cam follower configured to cooperate with the cam surface to drive at least one of the first and second connector units toward the other one of the first and second connector units to releasably engage the plurality of first connector sets with the plurality of second connector sets.

[c24] 24. The computer system of claim 18 wherein the drive assembly is manually operated to mechanically drive the at least one of the first and second connector units toward the other one of the first and second connector units to releasably engage the plurality of first connector sets with the plurality of second connector sets.

[c25] 25. The computer system of claim 18 wherein the drive assembly includes a lever pivotally mounted to the second connector unit, and wherein the

lever is manually rotated to mechanically drive the first connector unit toward the second connector unit to releasably engage the plurality of first connector sets with the plurality of second connector sets.

[c26] 26. The computer system of claim 18 wherein the first connector unit is movable relative to the first bank of processors and the second connector unit is fixed relative to the second bank of processors, and wherein the drive assembly is operably coupled to the second connector unit and configured to drive the first connector unit toward the second connector unit to releasably engage the plurality of first connector sets with the plurality of second connector sets.

[c27] 27. The computer system of claim 18 wherein the first connector unit further includes a first alignment feature and the second connector unit further includes a corresponding second alignment feature configured to cooperate with the first alignment feature so that the plurality of first contacts are properly aligned with corresponding second contacts.

[c28] 28. The computer system of claim 18 wherein the first connector unit further includes at least one guide pin bore and the second connector unit further includes a corresponding guide pin configured to be received by the guide pin bore so that the plurality of first contacts are properly aligned with corresponding second contacts.

[c29] 29. The computer system of claim 18 wherein:
the first connector unit further includes a first primary alignment feature and a first secondary alignment feature; and
the second connector unit further includes a second primary alignment feature and a second secondary alignment feature, wherein-
the first primary alignment feature of the first connector unit is configured to cooperate with the second primary alignment

feature of the second connector unit to provide a first stage of alignment between the first contacts and the corresponding second contacts, and

the first secondary alignment feature of the first connector unit is configured to cooperate with the second secondary alignment feature of the second connector unit to provide a second stage of alignment between the first contacts and the corresponding second contacts, the second stage of alignment being closer than the first stage of alignment.

[c30] 30. A connector assembly for operatively connecting a first bank of processors to a second bank of processors, the connector assembly comprising:

a first connector unit having a first connector support and a plurality of first connector sets mounted to the first connector support, wherein individual first connector sets include a plurality of first contacts; and a second connector unit having a second connector support and a plurality of second connector sets mounted to the second connector support, wherein individual second connector sets include a plurality of second contacts, and wherein at least one of the first connector unit and the second connector unit is movable relative to the other one of the first connector unit and the second connector unit to engage the plurality of first connector sets with the plurality of second connector sets at least approximately concurrently.

[c31] 31. The connector assembly of claim 30 wherein at least one of the first connector support and the second connector support is movable relative to the other one of the first connector support and the second connector support to at least approximately concurrently engage the plurality of first contacts with the plurality of second contacts.

[c32] 32. The connector assembly of claim 30 wherein the plurality of first connector sets are movably mounted to the first connector support to move independently from each other in at least one direction relative to the connector support.

[c33] 33. The connector assembly of claim 30 wherein the first connector unit further includes at least a first alignment feature and the second connector unit further includes at least a corresponding second alignment feature configured to align the plurality of first connector sets with the plurality of second connector sets.

[c34] 34. The connector assembly of claim 30 wherein the second connector unit further includes at least one guide pin and the first connector unit further includes at least one corresponding guide pin bore configured to receive the guide pin to align at least one of the plurality of first connector sets with a corresponding one of the plurality of second connector sets.

[c35] 35. The connector assembly of claim 30 wherein:
the first connector unit further includes a first primary alignment feature and a first secondary alignment feature; and
the second connector unit further includes a second primary alignment feature and a second secondary alignment feature, wherein-
the first primary alignment feature of the first connector unit is configured to cooperate with the second primary alignment feature of the second connector unit to provide a first stage of alignment between the first contacts and the corresponding second contacts, and
the first secondary alignment feature of the first connector unit is configured to cooperate with the second secondary alignment feature of the second connector unit to provide a second

stage of alignment between the first contacts and the corresponding second contacts, the second stage of alignment being closer than the first stage of alignment.

[c36] 36. The connector assembly of claim 30 wherein:
the first connector unit further includes a primary guide pin bore and a secondary guide pin bore; and
the second connector unit further includes a primary guide pin and a secondary guide pin, wherein-
the primary guide pin bore of the first connector unit is configured to receive the primary guide pin of the second connector unit to provide a first stage of alignment between the plurality of first contacts and the corresponding second contacts, and
the secondary guide pin bore of the first connector unit is configured to receive the secondary guide pin of the second connector unit to provide a second stage of alignment between the plurality of first contacts and the corresponding second contacts, the second stage of alignment being closer than the first stage of alignment.

[c37] 37. The connector assembly of claim 36 wherein at least one of the first connector sets further includes a connector back-shell and a contact array frame, wherein the contact array frame carries the plurality of first contacts in the connector back-shell, and wherein the connector back-shell includes the primary guide pin bore and the contact array frame includes the secondary guide pin bore.

[c38] 38. The connector assembly of claim 36 wherein at least one of the first connector sets further includes a connector back-shell and a contact array frame, wherein the contact array frame carries the plurality of first contacts in the connector back-shell and is free to move small distances relative to the connector

back-shell, and wherein the connector back-shell includes the primary guide pin bore and the contact array frame includes the secondary guide pin bore.

[c39] 39. The connector assembly of claim 36 wherein at least one of the first connector sets further includes a connector back-shell and a contact array frame, wherein the contact array frame carries the plurality of first contacts in the connector back-shell and individual first contacts are free to move small distances relative to each other in the contact array frame, and wherein the connector back-shell includes the primary guide pin bore and the contact array frame includes the secondary guide pin bore.

[c40] 40. The connector assembly of claim 30 wherein at least one of the first connector unit and the second connector unit is carried by at least one extendable member that accommodates movement of the at least one connector unit relative to the other one of the connector units.

[c41] 41. The connector assembly of claim 30 wherein at least one of the first connector unit and the second connector unit further includes at least one cam follower, and wherein the other of the first and second connector units further includes at least one cam surface configured to cooperate with the cam follower to drive the first and second connector units together to releasably engage the plurality of first connector sets with the plurality of second connector sets.

[c42] 42. The connector assembly of claim 41 wherein the at least one cam follower is rotatably mounted to the at least one of the first connector unit and the second connector unit.

[c43] 43. The connector assembly of claim 30 wherein at least one of the first connector unit and the second connector unit includes a blocking member that retractably extends into the path of the other of the first connector unit and the

second connector unit to block the plurality of first connector sets from inadvertently contacting the corresponding second connector sets.

[c44] 44. The connector assembly of claim 30, further comprising:
a plurality of cables operatively connected to corresponding first connector sets; and
a cable manager supported by the plurality of cables and spaced apart from the first connector support, wherein the cable manager positions the plurality of cables relative to each other and reduces strain on the first connector sets from cable loads.

[c45] 45. The connector assembly of claim 44, further comprising a plurality of flexible grommets carried by the cable manager, wherein individual flexible grommets flexibly support individual cables passing through the cable manager.

[c46] 46. The connector assembly of claim 30 wherein at least one of the first connector unit and the second connector unit further includes a plurality of contact retainers, wherein the contact retainers removably attach individual sets of contacts to the respective connector support and facilitate replacement of the individual sets of contacts for individual connector sets.

[c47] 47. A connector assembly for operatively connecting a first bank of processors to a second bank of processors, the connector assembly comprising:
a first connector unit including a plurality of individual first connector sets that include a plurality of first contacts operatively connectable to the first bank of processors, wherein the first connector unit further includes at least a first primary alignment feature;
a second connector unit including a plurality of second connector sets that include a plurality of second contacts operatively

connectable to the second bank of processors, wherein the second connector unit further includes at least a second primary alignment feature configured to cooperate with the first primary alignment feature to align the plurality of first contacts with the plurality of second contacts; and

a movable guide structure carrying at least one of the first and second connector units, wherein at least one of the first and second connector units is movable relative to the other one of the first and second connector units via the guide structure to releasably engage the plurality of first contacts with the plurality of second contacts.

[c48] 48. The connector assembly of claim 47 wherein the first connector unit is movable between a retracted position spaced apart from the second connector unit and an engaged position in which the plurality of first contacts are engaged with the plurality of second contacts, and wherein the movable guide structure includes at least one extendible tube assembly configured to support the first connector unit and span the distance between the retracted position and the engaged position.

[c49] 49. The connector assembly of claim 47 wherein the first primary alignment feature is a guide pin bore and the second primary alignment feature is a corresponding guide pin.

[c50] 50. The connector assembly of claim 47 wherein:
the first connector unit further includes a first secondary alignment feature;
and
the second connector unit further includes a second secondary alignment feature, wherein-

the first primary alignment feature of the first connector unit is configured to cooperate with the second primary alignment feature of the second connector unit to provide a first stage of alignment between the first contacts and the corresponding second contacts, and

the first secondary alignment feature of the first connector unit is configured to cooperate with the second secondary alignment feature of the second connector unit to provide a second stage of alignment between the first contacts and the corresponding second contacts, the second stage of alignment being closer than the first stage of alignment.

[c51]

51. The connector assembly of claim 47 wherein:

the first primary alignment feature is a primary guide pin bore and the first connector unit further includes a secondary guide pin bore; and
the second primary alignment feature is a primary guide pin and the second connector unit further includes a secondary guide pin, wherein-

the primary guide pin bore of the first connector unit is configured to receive the primary guide pin of the second connector unit to provide a first stage of alignment between the plurality of first contacts and the corresponding second contacts, and

the secondary guide pin bore of the first connector unit is configured to receive the secondary guide pin of the second connector unit to provide a second stage of alignment between the plurality of first contacts and the corresponding second contacts, the second stage of alignment being closer than the first stage of alignment.

[c52] 52. The connector assembly of claim 51 wherein at least one of the first connector sets further includes a connector back-shell and a contact array frame, wherein the contact array frame carries the plurality of first contacts in the connector back-shell, and wherein the connector back-shell includes the primary guide pin bore and the contact array frame includes the secondary guide pin bore.

[c53] 53. The connector assembly of claim 51 wherein at least one of the first connector sets further includes a connector back-shell and a contact array frame, wherein the contact array frame carries the plurality of first contacts in the connector back-shell, wherein the connector back-shell is free to move in at least one direction relative to the first connector unit, and wherein the connector back-shell includes the primary guide pin bore and the contact array frame includes the secondary guide pin bore.

[c54] 54. The connector assembly of claim 51 wherein at least one of the first connector sets further includes a connector back-shell and a contact array frame, wherein the contact array frame carries the plurality of first contacts in the connector back-shell and is free to move in at least one direction relative to the connector back-shell, and wherein the connector back-shell includes the primary guide pin bore and the contact array frame includes the secondary guide pin bore.

[c55] 55. The connector assembly of claim 51 wherein at least one of the first connector sets further includes a connector back-shell and a contact array frame, wherein the contact array frame carries the plurality of first contacts in the connector back-shell and individual first contacts are free to move in at least one direction relative to each other in the contact array frame, and wherein the connector back-shell includes the primary guide pin bore and the contact array frame includes the secondary guide pin bore.

[c56] 56. The connector assembly of claim 47, further comprising a drive assembly operably coupled to at least one of the first connector unit and the second connector unit, wherein the drive assembly is configured to drive at least one of the first and second connector units toward the other one of the first and second connector units to releasably engage the plurality of first contacts with the plurality of second contacts.

[c57] 57. A system for operably connecting a first bank of processors to a second bank of processors, the system comprising:

means for at least approximately concurrently aligning a plurality of first connector sets with a plurality of corresponding second connector sets; and

means for at least approximately concurrently engaging the first connector sets with the second connector sets to operably connect the first bank of processors to the second bank of processors.

[c58] 58. The system of claim 57 wherein individual first connector sets include a plurality of first contacts operatively connected to the first bank of processors, wherein individual second connector sets include a plurality of second contacts operatively connected to the second bank of processors, and wherein the means for at least approximately concurrently engaging the plurality of first connector sets with the plurality of second connector sets includes means for engaging the plurality of first contacts with the plurality of second contacts.

[c59] 59. The system of claim 57 wherein the means for at least approximately concurrently engaging the plurality of first connector sets with the plurality of second connector sets includes means for manually driving the plurality of first connector sets at least approximately concurrently toward the plurality of second connector sets.

[c60] 60. The system of claim 57 wherein the means for at least approximately concurrently engaging the plurality of first connector sets with the plurality of second connector sets includes means for mechanically driving the plurality of first connector sets at least approximately concurrently toward the plurality of second connector sets.

[c61] 61. The system of claim 57 wherein the means for at least approximately concurrently aligning the plurality of first connector sets with the plurality of second connector sets includes means for receiving at least a first alignment pin in a corresponding first pin bore.

[c62] 62. The system of claim 57 wherein the means for at least approximately concurrently engaging the plurality of first connector sets with the plurality of second connector sets includes means for operatively connecting a first bank of processors to a second bank of processors.

[c63] 63. The system of claim 57 wherein the means for at least approximately concurrently engaging the plurality of first connector sets with the plurality of second connector sets includes means for simultaneously engaging the plurality of first connector sets with the plurality of second connector sets.

[c64] 64. The system of claim 57 wherein the means for at least approximately concurrently aligning the plurality of first connector sets with the plurality of second connector sets includes means for at least approximately concurrently aligning a first connector support relative to a corresponding second connector support, wherein the first connector sets are mounted to the first connector support and the second connector sets are mounted to the second connector support.

[c65] 65. The system of claim 57 wherein the plurality of first connector sets are carried by a first connector support and the plurality of second connector sets are carried by a corresponding second connector support, and wherein the means for at least approximately concurrently aligning a plurality of first connector sets with a plurality of corresponding second connector sets includes:

means for achieving a first level of alignment by aligning the first connector support relative to the second connector support; and

means for achieving a second level of alignment by aligning individual first connector sets relative to corresponding second connector sets, wherein the second level of alignment is closer than the first level of alignment.

[c66] 66. The system of claim 57 wherein the plurality of first connector sets are carried by a first connector support and the plurality of second connector sets are carried by a corresponding second connector support, wherein individual first connector sets include first connector back-shells and first contact array frames carried by the first connector back-shells, wherein corresponding second

connector sets include corresponding second connector back-shells and second contact array frames carried by the second connector back-shells, and wherein the means for at least approximately concurrently aligning the plurality of first connector sets with corresponding second connector sets includes:

means for achieving a first level of alignment by aligning the first connector support relative to the second connector support;

means for achieving a second level of alignment by aligning individual first connector back-shells relative to corresponding second connector back-shells, wherein the second level of alignment is closer than the first level of alignment; and

means for achieving a third level of alignment by aligning individual first contact array frames relative to corresponding second contact array frames, wherein the third level of alignment is closer than the second level of alignment.

[c67] 67. A method for operably connecting a first bank of processors to a second bank of processors, the method comprising:

at least approximately concurrently aligning a plurality of first connector sets with a plurality of corresponding second connector sets; and

at least approximately concurrently engaging the first connector sets with the second connector sets to operably connect the first bank of processors to the second bank of processors.

[c68] 68. The method of claim 67 wherein individual first connector sets include a plurality of first contacts operatively connected to the first bank of processors, wherein individual second connector sets include a plurality of second contacts operatively connected to the second bank of processors, and wherein at least approximately concurrently engaging the plurality of first connector sets with the plurality of second connector sets includes engaging the plurality of first contacts with the plurality of second contacts.

[c69] 69. The method of claim 67 wherein at least approximately concurrently engaging the plurality of first connector sets with the plurality of second connector sets includes manually driving the first connector sets at least approximately concurrently toward the second connector sets.

[c70] 70. The method of claim 67 wherein at least approximately concurrently engaging the plurality of first connector sets with the plurality of second connector sets includes mechanically driving the first connector sets at least approximately concurrently toward the second connector sets.

[c71] 71. The method of claim 67 wherein at least approximately concurrently aligning the plurality of first connector sets with the plurality of corresponding second connector sets includes receiving at least a first alignment pin in a corresponding first pin bore.

[c72] 72. The method of claim 67 wherein at least approximately concurrently engaging the plurality of first connector sets with the plurality of second connector sets includes operatively connecting a first bank of processors to a second bank of processors.

[c73] 73. The method of claim 67 wherein at least approximately concurrently engaging the plurality of first connector sets with the plurality of second connector sets includes simultaneously engaging the plurality of first connector sets with the plurality of second connector sets.

[c74] 74. The method of claim 67 wherein the plurality of first connector sets are carried by a first connector support and the plurality of second connector sets are carried by a corresponding second connector support, and wherein at least approximately concurrently aligning the plurality of first connector sets with the plurality of corresponding second connector sets includes at least approximately

concurrently aligning the first connector support relative to the second connector support.

[c75] 75. The method of claim 67 wherein the plurality of first connector sets are carried by a first connector support and the plurality of second connector sets are carried by a corresponding second connector support, and wherein at least approximately concurrently aligning a plurality of first connector sets with a plurality of corresponding second connector sets includes:

achieving a first level of alignment by aligning the first connector support relative to the second connector support; and

achieving a second level of alignment by aligning individual first connector sets relative to corresponding second connector sets, wherein the second level of alignment is closer than the first level of alignment.

[c76] 76. The method of claim 67 wherein the plurality of first connector sets are carried by a first connector support and the plurality of second connector sets are carried by a corresponding second connector support, wherein individual first connector sets include first connector back-shells and first contact array frames carried by the first connector back-shells, wherein corresponding second connector sets include corresponding second connector back-shells and second contact array frames carried by the second connector back-shells, and wherein at least approximately concurrently aligning the plurality of first connector sets with corresponding second connector sets includes:

achieving a first level of alignment by aligning the first connector support relative to the second connector support;

achieving a second level of alignment by aligning individual first connector back-shells relative to corresponding second connector back-shells, wherein the second level of alignment is closer than the first level of alignment; and

achieving a third level of alignment by aligning individual first contact array frames relative to corresponding second contact array frames, wherein the third level of alignment is closer than the second level of alignment.

[c77] 77. In a computer system having a first bank of processors spaced apart from a second bank of processors, a method for selectively operating the first bank of processors with the second bank of processors, the method comprising:

operably connecting the first bank of processors to the second bank of processors by:

at least approximately concurrently aligning a plurality of first connector sets with a corresponding plurality of second connector sets, wherein individual first connector sets include a plurality of first contacts operatively connected to the first bank of processors, and wherein individual second connector sets include a plurality of second contacts operatively connected to the second bank of processors; and

at least approximately concurrently engaging the first contacts with the second contacts; and

operably disconnecting the first bank of processors from the second bank of processors by at least approximately concurrently disengaging the first contacts from the second contacts.

[c78] 78. The method of claim 77 wherein at least approximately concurrently engaging each one of the plurality of first contacts with a corresponding one of the plurality of second contacts includes manually moving a first connector support in a first direction, wherein the first connector support carries the plurality of first connector sets, and wherein at least approximately concurrently disengaging each one of the plurality of first contacts from the corresponding one of the

plurality of second contacts includes manually moving the first connector support in a second direction opposite to the first direction.

[c79] 79. The method of claim 77 wherein at least approximately concurrently engaging each one of the plurality of first contacts with a corresponding one of the plurality of second contacts includes at least partially mechanically moving a first connector support in a first direction, wherein the first connector support carries the plurality of first connector sets, and wherein at least approximately concurrently disengaging each one of the plurality of first contacts from the corresponding one of the plurality of second contacts includes at least partially mechanically moving the first connector support in a second direction opposite to the first direction.

[c80] 80. The method of claim 77 wherein at least approximately concurrently engaging each one of the plurality of first contacts with a corresponding one of the plurality of second contacts includes rotating a lever in a first direction, and wherein at least approximately concurrently disengaging each one of the plurality of first contacts from the corresponding one of the plurality of second contacts includes rotating the lever in a second direction opposite to the first direction.

[c81] 81. In a computer system having a first bank of processors spaced apart from a second bank of processors, a method for performing classified work and unclassified work with at least one of the first bank of processors and the second bank of processors, the method comprising:

to perform unclassified work with the first bank of processors and the second bank of processors, operably connecting the first bank of processors to the second bank of processors by:
at least approximately concurrently aligning a plurality of first connector sets with a plurality of corresponding second connector sets; and

at least approximately concurrently engaging each one of the plurality of first connector sets with a corresponding one of the plurality of second connector sets; and
to perform classified work with at least one of the first bank of processors and the second bank of processors, partitioning the first bank of processors from the second bank of processors by at least approximately concurrently disengaging each one of the plurality of first connector sets from the corresponding ones of the plurality of second connector sets.

[c82] 82. The method of claim 81 wherein individual first connector sets include a plurality of first contacts operatively connected to the first bank of processors, wherein individual second connector sets include a plurality of second contacts operatively connected to the second bank of processors, and wherein at least approximately concurrently engaging each one of the plurality of first connector sets with a corresponding one of the plurality of second connector sets includes at least approximately concurrently engaging each one of the plurality of first contacts with a corresponding one of the plurality of second contacts.

[c83] 83. The method of claim 81 wherein at least approximately concurrently engaging each one of the plurality of first connector sets with a corresponding one of the plurality of second connector sets includes operatively coupling at least a first supercomputer processor housed in a first cabinet to at least a second supercomputer processor housed in a second cabinet spaced apart from the first cabinet.

[c84] 84. In a computer system having a first bank of processors and a second bank of processors, a method for operably connecting the first bank of processors to the second bank of processors, the method comprising:

at least approximately concurrently moving a plurality of first connector sets toward a plurality of corresponding second connector sets, wherein individual first connector sets include a plurality of first contacts operatively connected to the first bank of processors, and wherein individual second connector sets include a plurality of second contacts operatively connected to the second bank of processors;

at least approximately concurrently aligning the plurality of first connector sets with the plurality of second connector sets; and

at least approximately concurrently engaging each one of the plurality of first contacts with a corresponding one of the plurality of second contacts in not greater than approximately 30 seconds.

[c85] 85. The method of claim 84 wherein at least a portion of the first bank of processors are housed in a first cabinet, wherein at least a portion of the second bank of processors are housed in a second cabinet spaced apart from the first cabinet, and wherein the method further comprises releasing the plurality of first connectors from a locked position relative to the first cabinet before moving the plurality of first connectors toward the plurality of second connectors.

[c86] 86. The method of claim 84 wherein at least approximately concurrently moving a plurality of first connector sets toward a plurality of corresponding second connector sets includes at least approximately concurrently moving at least four first connector sets.

[c87] 87. The method of claim 84 wherein at least approximately concurrently moving a plurality of first connector sets toward a plurality of corresponding

second connector sets includes at least approximately concurrently moving about eight or more first connector sets.

[c88] 88. The method of claim 84 wherein the steps of at least approximately concurrently aligning the plurality of first connector sets with the plurality of second connector sets and engaging each one of the plurality of first contacts with a corresponding one of the plurality of second contacts are performed in about six seconds or less.

[c89] 89. The method of claim 84 wherein the steps of at least approximately concurrently aligning the plurality of first connector sets with the plurality of second connector sets and engaging each one of the plurality of first contacts with a corresponding one of the plurality of second contacts are performed in about three seconds or less.